

MINAYEVA, Ye.V.

Building underground structures using industrial methods. Vol. 1
s.n. tekhn. no.8:25-28 Ag '64 (MIRA 18:1)

85349

S/120/60/000/005/019/051

E032/E514

9.4/30 (2301, 2801, 3001)

AUTHORS: Matveyev, V.V., Minayeva, Ye. Ye. and Sokolov, A.D.

TITLE: Measurement of the Anode Current of Photomultipliers

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, No.5, pp.86-89

TEXT: The anode currents of Soviet photomultipliers (types ФЭУ-29 (FEU-29), 24, 13, C (S), 23) were investigated as functions of the magnetic field. It was found that the properties of these photomultipliers as far as the effect of the magnetic field is concerned are identical with the RCA 5819 and RCA 6199 photomultipliers. The limiting magnetic field lies in the neighborhood of 0.5 Oe. There are 4 figures and 8 references: 4 Soviet and 4 English.

SUBMITTED: August 26, 1959

Card 1/1

S/120/62/000/001/035/061
E192/E382

AUTHORS: Matveyev, V.V., Minayeva, Ye.Ye. and Sokolov, A.D.

TITLE: Investigation of the temperature-dependence of the parameters of photomultipliers

PERIODICAL: Pribery i tekhnika eksperimenta, no. 1, 1962,
144 - 148

TEXT: The operating-temperature range of scintillation equipment is largely dependent on the thermal stability of the parameters of photomultipliers used in the equipment. The temperature stability of the photomultipliers was therefore investigated, firstly by considering the available experimental data and, secondly, by carrying out some special measurements. The available data (for a number of American du Mont and RCA tubes and Soviet devices) covered the temperature range from -50 to +50 °C and were measured under pulsed conditions such that the light spectrum covered the range from 3 500 to 6 000 Å. It is found by examining these data that the temperature coefficient of the photomultipliers, even of the same type,

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Card 1/5

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E192/E382

Investigation of

changes its sign; in most cases, the coefficient is negative for wavelengths of less than 4 000 Å but becomes positive above 5 000 Å. This seems to indicate that the photocathode plays an important part in the thermal instability of photomultipliers. In order to clarify this problem, the temperature characteristics of a number of Soviet photomultipliers was measured by employing a suitable climatic-test chamber. The temperature of the chamber could be varied from -50 to 100 °C. The photocathodes of the tubes were illuminated by means of pulsed sources based on a lamp, type П-8 (MN-8), as described in Ref. 12 (Matveyev and Sokolov - Apparatura dlya yadernoy spektrometrii (Sb. nauchn. rabot) 1960, Atomizdat). The effect of the spectral composition of the light was measured by using a number of narrow-band (100 Å) light filters. It was found that the highest temperature stability was obtained in photomultipliers, type ФЭУ-11 (FEU-11), which are provided with dynodes made of an alloy and an Sb-Cs photocathode deposited on a metal base. The effect of the photocathode was investigated

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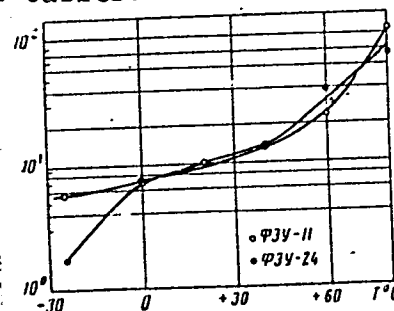
Investigation of

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E192/E382

by illuminating it with monochromatic light of the following wavelengths: 4 170; 4 630; 5160 and 6100 Å. It was found that in this case the overall sensitivity, as a function of temperature, varied not only in magnitude but also in sign. The equivalent noise of the photomultipliers was also measured and this is illustrated in Fig. 3, where its level in relative units is plotted for two photomultipliers (FEU-11 and FEU-24). The authors thank V.V. Khodakova and A.V. Koslyadin for help in this work. There are 4 figures and 2 tables.

SUBMITTED: June 20, 1961

Fig. 3:



Card 3/3

MATVEYEV, V.V.; MINAYEVA, Ye.Ye.; SOKOLOV, A.D.

Design of electromagnetic screens for photomultipliers. Prib. i tekhn.
eksp. 8 no.2:116-120 Mr-Ap '63. (MIRA 16:4)
(Photoelectric multipliers)

BIDZHIYEV, R.A.; MINAYEVA, Yu.I.

Stratigraphy of Jurassic sediments in the northern fault of the
Verkhoyansk piedmont region. Geol. i geofiz. no.11:47-62 '61.
(MIRA 15:2)

1. Vsesoyuznyy aerogeologicheskiy trest, Moskva.
(Verkhoyansk Range--Geology, Stratigraphic)

MINAYEVA, Yu.I.; BIDZHIYEV, R.A.

Middle Paleozoic weathering surface in the northeastern part of
the Siberian Platform. Trudy VAGT no.8:21-24 '62. (MIRA 15:11)
(Siberian Platform--Weathering)

BIDZHIYEV, R.A.; MINAYEVA, Yu.I.

Source material in the formation of Jurassic sediments in the
northern Verkhoyansk piedmont and the adjacent part of the
Vilyuy syncline. Trudy VAGT no.8:42-49 '62. (MIRA 15:11)
(Verkhoyansk range region--Petrology)

S/0208/64/004/001/0171/0177

ACCESSION NR: AP4012012

AUTHOR: Minaylos, A. N. (Moscow)

TITLE: Supersonic flow over blunt bodies of revolution at angles of attack

SOURCE: Zhurnal vychisl. matem. i matem. fiz., v. 4, no. 1, 1964, 171-177

TOPIC TAGS: ideal gas, supersonic flow, blunt bodies, angle of attack, differential equations

ABSTRACT: The direct method with integral relationships and two-variable interpolation has been used to study the flow of an ideal supersonic gas stream over a blunt body of revolution at small angles of attack. A body-centered curvilinear coordinate system x, y, θ is used and (see Enclosure) the compressible ideal gas flow equations are nondimensionalized relative to the body radius and free stream conditions. The simplest model is assumed with single strip between shock wave and body surface, $N=1$, and a single strip $P=1$ between the planes $\theta=0$ and $\theta=\pi$. Partial differential equations are transformed into ordinary differential equations for independent variable x and unknown functions U, ξ, σ and w at $\theta=0$ and π . The equations are integrated from $x=0$, for a sphere at angles of attack, $0, 30, 80$ and Mach number 6. The calculation results are compared to the experimental results

Card 1/3

ACCESSION NR: APL012012

of D. Fraasa (An experimental investigation of hypersonic flow over blunt-nosed bodies at a Mach number of 5.8. CALCIT Report 1957, No. 2, 75 pp.) and agreement is found to be good. Orig. art. has: 17 equations and 3 figures.

ASSOCIATION: none

SUBMITTED: 21Dec62

DATE ACQ: 14Feb64

ENCL: 01

SUB CODE: AS

NO REF SOV: 004

OTHER: 007

Card 2/3

L 54622-65

ACCESSION NR: AR5009898

S/0299/85/000/005/B029/B029

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 5B222

AUTHOR: Minbayev, R.; Konev, Yu. Ye.

TITLE: Actinomycetes from the desert soils of Kyzyl-Kum which form phytopathogenic fungi

CITED SOURCE: Sb. Materialy 2-y Konferentsii molodykh uchenykh Leningr. in-ta antibiotikov, 1964, L., 1964, 57-58

TOPIC TAGS: actinomycete, phytopathogenic fungus, antibiotic

ABSTRACT: The antagonism of 507 strains of actinomycetes from untreated sandy soils of the southwestern part of the Kyzyl-Kum Desert was studied. Of the strains which were studied, 82 possessed antifungous properties. The more active producers which

were studied, 92 possessed antifungous properties. The more active producers which had antagonistic actions with respect to phytopathogenic fungi were selected for further study. Three of them synthesized polyene antibiotics; three of the others synthesized a mixture of antibacterial and antifungous substances. An identification was made of the strains which were isolated according to morphological, cul-

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L 54622-65

ACCESSION NR: AR5008898

tural, and physiological characteristics. Among the actinomycetes described in the literature there are no species completely identical with the described strain producers of non-polyene antifungous antibiotics. The antibiotic raw material obtained from the culture liquid of these strains was highly active against certain phytopathogenic fungi. (T. Uspenskaya)

SUB CODE: LS, ES

ENCL: 00

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Card 2/2

JEFREMOV, D.V.; MESCHERJAKOV, M.G.; MINC, A.L.; DZELEPOV, V.P.; IVANOV, P.P.;
KAMYSEV, V.S.; KOMAR, J.G.; MALYSEV, I.F.; MONOSZON, N.A.; NEVJAZSKIJ,
I.Ch.; POLJAKOV, B.I.; CESTNOJ, A.V.; BENDA, Frantisek [translator]

The six meter synchrocyclotron of the Institute for Research on
Nuclear Problems affiliated to the Academy of Sciences of Soviet
Union. Jaderna energie 3 no.1:1-4 Ja '57.

1. Ustav jaderne fysiky (for Benda).

VLADIMIRSKIJ, V.V.; KOMAR, Je.G.; MINC, A.L.; GOL'DIN, L.L.; KOSKAREV, D.C.;
MONOSZON, N.A.; NIKITIN, S.Ja.; RUBCINSKIJ, S.M.; SKACKOV, S.V.;
STREL'COV, N.S.; TRASOV, Je.K.; MEDONOS, S., inz. [translator]

Main characteristics of the planned proton accelerator for 50-60
BeV energy with sharp focusing. Jaderna energie 3 no.2:56-57 F '57.

VEKSLER, V.J.; VODOPJANOV, A.F.; JEFREMOV, D.V.; MINC, A.Z.; VEISBEIN, M.M.;
GASEV, M.G.; ZEJDIC, A.J.; IVANOV, T.P.; KOLOMENSKIJ, A.A.; KOMAR, E. G.;
MALYSEV, J.E.; MONOSZON, M.A.; NEVJAZSKIJ, J.Ch.; PETUCHOV, V.A.;
RABINOVIC, V.A.; RUBCINSKIJ, S.N.; SINEBNIKOV, K.D.; STOLOV, A.M.;
KULT, Karel, inz.

The synchrotron for particle acceleration to 10 BeV energy of the
Soviet Academy of Sciences. Jaderna energie 3 no.1:5-9 Ja '57.

1. Ustav jaderne fysiky (for Kult).

MINC, B.

"Fifth Soviet Five-Year Plan". p. 362 (Problemy, Vol, 9 no. 5, 1953 Warszawa.)

Vol. 3, no. 6

SO: Monthly List of East European Accessions./Library of Congress, June 1954, Uncl.

MINC, Bronislaw

Planowanie Gospodarki Narodowej (Planning of the National Economy). Warsaw,
Panstwowe Wydawnictwo Naukowe, 1955. At the head of title: Polish Academy of Sciences;
Department of Economic Sciences.

55M/6

783/3

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(PT.)

MINC, Bronislaw, prof. dr.

Problem of economic effectiveness of scientific research.
Problemy 20 no.8:463-465 '64

1. Head, Department of Political Economy, Dean, Division of
Finance and Statistics, Central School of Planning and Sta-
tistics, Warsaw.

MINC, L.

Minc, L. Samochod, budowa i eksploatacja. Pod red. Pawla Solskiego. (Warszawa)
Wydawnictwo Ministerstwa Obrony Narodowej (1951) 1015 p. (The automobile,
its construction and operation. Illus. bibl.)

SO: Monthly list of East European Accessions, LC, Vol. 3, No. 1,
Jan. 1954, Uncl.

MINC, L.

(MOTORZACJA, Vol. 8, No. 12, Dec, 1953, Warszawa, Poland)

"How a social order affects the development of the automobile." (To be contd.)
p. 330.

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, L.C., Vol. 3, No. 4, APRIL 1954

MINC, L.

(MOTORYZACJA, Vol. 9, No. 1, Jan 1954, Warszawa, Poland)

"How the social order affects the development of the automobile." (To be contd.)
p. 4.

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, Vol. 3, No. 4, 1954)

MING, L.

"How the Social Structure Affects the Development of Automobiles." p. 37.
(MOTORYZACJA, Vol. 9, No. 2, Feb. 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC,
Vol. 3, No. 12, Dec. 1954, Uncl.

MINC, L.

"Outlook for Development of the Technical Automobile Service." p. 159,
(MOTORYZACJA, Vol. 9, No. 6, June 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (BEAL), LC,
Vol. 3, No. 12, Dec. 1954, Uncl.

MINC, L.

"Traffic Speed and Road Clearance." p. 192, (MOTORYZACJA, Vol. 9, No. 7, July 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

MING, L.

"Constructional foundations of a motor truck for heavy loads." p. 362.
(MOTORYZACJA, Vol. 9, No. 12, Dec. 1954. Warszawa, Poland)

SOL Monthly List of East European Accessions. (REAL). LC. Vol. 4, No. 4.
April 1955. Uncl.

MINC. L.

Trends in the development of the Polish automobile industry from the point of view of export. p. 341. Vol. 10, no. 11, Nov. 1955. *Motoryzacja*.

SOURCE: East European Accessions List (EEAL), LC. Vol. 5, no. 3, March 1956.

PROCESS AND PROPERTIES INDEX																									
<p>CA</p> <p>The influence of ultraviolet irradiation on nitrocellulose sols in acetone. Stefan Minc. <i>Przegląd Chem.</i> 6, 844 (1948). Viscosity of sols increases with the time of ex- posure, the decrease being more pronounced for con-d. sols. of nitrocellulose. A. Spozvinski</p>																									
<p>23</p>																									
<p>ASTM 31.4 METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>ASTM 31.4 METALLURGICAL LITERATURE CLASSIFICATION</p>																									

P.T.A.

Chemistry & Chemical Technology

743

400.14-415

Mina S. Cathodic Protection of Steel Plate in Seawater.

„Katodowa ochrona blachy stalowej w wodzie morskiej”. Przemysł Chemiczny, No. 10, 1958, pp. 866-867, 9 figs.

Method of cathodic protection of steel plate in seawater, based on connecting the protected part, as cathode, to an auxiliary source of current. Results of experiments to determine the density of current necessary for protection; graphs illustrate the results obtained.

P.T.A.

Chemistry & Physics
Exhaustive

542 978 : 546 819 817 99 : 620 197 : 621 793 12
Ming, S. B. The Cathodic Protection of Ship Sheet Steel
in Dependence on the Composition of the Protector and the Chemical
Composition of Red Lead Serving as Pigment.

„Ochrona katodowa blachy poszyta okretowego w zaleznosci od
skladu protektorow i skladu chemicznego miala, uzyta w charakterze
pigmentu” Przemysl Chemiczny, No. 2-3, 1969, pp. 87-95, 3 figs.,
20 tabs.

The paper characterizes research work tending to define an
optimal composition of the zinc-aluminum protector, for the pro-
tection of steel corrosion in seawater. Further investigation aimed
at recognizing the influence of lead oxide admixture contained
within red lead on the inhibiting activity of the protector, and
diagrams are included.

Mine, Stefan

Activity of ions in capillary environment. Stefan Mine
and Zdenek Chazek. Kocni Chem. 24, 241 (1951).
in English, 470-1 (1951).—The e.m.f. developed between
a Cu electrode in 0.0025–0.05M CuSO₄ soln. and one in
quartz sand satd. with the same soln. is given by $E = (RT/nF) \log (c + B)/(B - a_0 + c)$, where B and a_0 are const.
from the Langmuir equation, and c is ionic concn. The
value of E is $\propto 1/d$, where d is mean grain diam. Addn. of
other electrolytes (NaCl, MnSO₄) lowers E , while sucrose
raises it, probably owing to diminution in ionic mobility
due to increased viscosity. Other nonelectrolytes (BIOH,
Amc alc., glycerol, saponin, benzene) have no effect on E ,
probably because they are not adsorbed on SiO₂. B. A.

Chazek

URBANSKI, Tadeusz, S.; MINC, Stefan

Solvent extraction of cations with alkyl phosphoric acids from sulfate solutions. I. Solvent extraction of U^{VI} and Fe^{III} with dodecyl phosphoric acid in the presence of different cations. Nukleonika 6 no.12:765-773 '61.

1. Nuclear Research Institute, Polish Academy of Sciences, Warsaw, Laboratory of Chemical Technology and Chair of Physical Chemistry, University, Warsaw.

MINC, S.

Polish Technical Abst.
No. 4, 1953
Mechanics, Electro-
technics, Power

2423

✓

627.26:620.197.6.001,5:669.14

③ met

Minc S., Bieguszewski Z., Knoch L. Cathodic Pro-
tection of Marine Steelwork.

Ochrona katodowa stalowych konstrukcji morskich.
Technika i Gospodarka Morska. No. 3, 1952, pp. 129-
133, 3 figs.

Test results over the potential of cathode-protected
experimental steel sheet-piling sections, by connecting
them to an outside source of electric current.

Description of measurements taken and of results
obtained in the ports of Gdanak and Gdynia. It
was found necessary to examine such further parameters
as are essential for designing cathodic means
of protection. The article deals, moreover, with
the theoretical principles of this particular
method of protecting steel from corrosion.

Minc St.

13862* Polarographic Method of Examining Corrosion
of Steel. (Polish.) St. Minc *Przemysl Chemiczny*, v. 8, no.
10, Oct. 1952, p. 443-447.

Presents the optimum conditions for using changes in the mag-
nitude of O_2 wave for classifying steel according to its anti-
corrosive properties. Graphs, tables, diagram. 9 ref.

ENCLOS.

Dependence of potential of a cathodically polarized electrode on electrolyte structure platinum/nitric acid, steel/nitric acid. S. Minc (Univ. Warsaw). Bull. Acad. Polon. Sci. Class. Sci. 9 (1963) (in English). During the cathodic polarization of HNO_3 there exists two types of depolarizers, their action being mainly detd. by the acid concn. and partly by the material of the electrode. The pseudo form of HNO_3 begins to play the main part as a depolarizer during polarization at acid concns. of 3-4M. At these concns., the pseudo form becomes the main acceptor of electrons from the cathode. Such a mode of depolarization is more effective than H depolarization because the activation energy of the whole process for homopolar mols. is lower than for ions. K. R. Hesse

MINC, S.

009.14 : 620.19.013 : 541.132.2

Minic S., Juchniewicz R. Contingence of the Potential of the Irreversible Electrode on the pH-Value of the Medium, as an Indicator of Anti-corrosive Stability.

Polish Technical. Abst.
No. 1 1954
Chemistry and Chemical
Technology

„Zależność potencjału nieodwracalnej elektrody (stabil) od pH środowiska, jako wskaźnik trwałości antykorozyjnej”. Przemysł Chemiczny No. 4, 1953, pp. 176-181, 14 figs., 1 tab.

Various types of steel were experimented with in order to determine the E-pH relation and to link it with the rate of corrosion in experimental conditions. The potential of the types of steel experimented with cannot be determined by the direct dependence of individual changes in the concentration of hydrogen ions and is not proportional to the rate of corrosion. The fall in the potential at the metal/solution boundary does not exactly decide as to the potential value of the electrode.

MINE, ST.

Effect of pH of the medium on the potential of the irreversible electrode as indicator of anticorrosive stability. St. Mine and R. Juchniewicz. Przemysl Chem. v 9, 176-181, (1953) (English summary). — The relation of E to pH and its connection with the rate of corrosion of steel was investigated. The potential of the steel was not related directly to changes of H^+ concn. and was not proportional to the rate of corrosion. The fall of the potential on the metal-soln. boundary did not det. completely the potential value of the electrode.

of (1)

MINC, Stefan

(2)
/ Effect of acetic acid on the tautomeric equilibrium in
nitric acid. Stefan Minc and Zbigniew Keckl. *Roczniki
Chem.* 27, 525-30 (1953) (English summary).—It was con-
cluded from a study of Raman spectra that the tautomeric
equil. $\text{HO.NO}_2 \rightleftharpoons [\text{NO}_2]^-[\text{H}_2\text{O}]^+$ in solns. of HNO_3 in
AcOH shifts toward a greater amt. of the pseudo form,
 HO.NO_2 , as compared with an aq. soln. of HNO_3 of the
same analytical concn. Sylvia Nowinska

MINE, St.

Chemical Abst.

Vol. 48 No. 9

May 10, 1954

General and Physical Chemistry

Cupric ion solvation in water-ethanol solutions. St. Miliński and W. Libus (Univ., Warsaw). Roczniki Chem. 27, 511-13 (1953) (English summary). Extinction curves of $\text{Cu}(\text{NO}_3)_2$ in water-EtOH mixts. show extinction max. at 7100

and 910 $\text{m}\mu$, present only in EtOH-contg. solns. This is attributed to the chem. character of solvation of Cu^{++} with EtOH. Gradual change in the extinction coeffs. from pure water to 96% alc. indicates only moderately selective solvation of Cu^{++} with water. M. Falk

11-9-54
mfj

Mine, S.

*The Dependence of the Potential of a Cathodically Polarized Electrode on Electrolyte Structure: A Study of the Potentials of Fe/HNO_3 and $\text{Steel}/\text{HNO}_3$. S. Bilno (Bull. Acad. Polon. Sci., 1953, [iii], 1, (7), 333-338).—[In English]. The depolarizing factor for the cathodic process at a Pt or Ni-Cr steel electrode immersed in 1.5M- HNO_3 at c.d. 0-60-160 m.amp./cm.² for the Pt electrode, and c.d. 0-50 m.amp./cm.² for the steel electrode was measured at 18°-20° C. For a const. c.d. and 3-4M- HNO_3 , a marked change of electrode polarization potential occurs. For concentrations weaker or stronger than these, the change of the electrode polarization voltage is regular. The results suggest that during cathodic polarization in HNO_3 , there exist two types of depolarizers, the actions of which are determined by the acid concentration and the material of the electrode, and are explained in terms of the existence of two forms of HNO_3 , viz. the acid and the pseudo-acid form.

H6

—J. S. O. T.

~~SECRET~~
MINC, S.

3

POL.

1150

541.135.64

Minc S., Jaselski S. Cathodic Depolarisation Mechanism in Nitric Acid.

"Mechanizm depolaryzacji katodowej w kwasie azotowym". Roczniki Chemii (PAN), No. 1, 1954, pp. 108-124, 9 figs., 4 tabs.

Investigations were carried out over the cathodic process taking place in nitric acid on a platinum electrode covered with platinum black, and

on steel electrodes. The dependence of the process on acid concentration and polarising current intensity (density) was also examined.

BI

MINE, S.

3482

POL. B

620.193.47

Mino, S., Stolarczyk, L. Investigation of Electrochemical Corrosion in Liquids of Low Dielectric Constants.

"Badania korozji elektrochemicznej w cieczach o niskich stałych dielektrycznych" Przemysł Chemiczny. No. 2, 1954, pp 69-72, 17 figs. 3 tabs.

The investigation concerned the behaviour of various metals linked in pairs (steel, copper, brass, aluminium) in rectified ethyl alcohol, denatured spirit, crude distillery spirit, in different fractions obtained from the distillation of crude spirit, as well as in solutions of sodium sulphite and urea, dissolved in the same liquids. It was found that: 1) in the liquids examined electrochemical corrosion of the anodes takes place. This corrosion is stronger in liquids of higher specific conductivity and on anodes having a greater difference of potential in relation to the respective cathodes; 2) the corrosion of the anodes appears in the form of point-corrosion; 3) among the substances examined for influence on corrosion, urea showed an inhibitory effect in copper-steel and brass-steel systems.

Mine S.

2647

548.175-35 : 542.623 : 535.375.5

Mine S., Kurowski S. Investigations in the Raman Spectrum on the Tautomerie Balance at the Ionized and Non-Ionized Forms of Nitric Acid in Polarized Cathodic Space. CH.

„Badanie równowagi tautomerycznej formy zjonizowanej i niezjonizowanej kwasu azotowego w przestrzeni polaryzowanej katody za pomocą widma Ramana”. Roczniki Chemii (PAN). No. 4, 1954, pp. 629-633, 2 figs., 3 tabs.

By measurements of the intensity of the Raman lines during the high-voltage cathodic polarization process, it was shown that the concentration rate decrease of the non-ionized form of nitric acid per unit of current density is 17 times greater than that of the ionized form.

M
Dkt

MINC STEFAN

Mechanism of cathodic depolarization in nitric acid.
 Stefan Minc and Stanislaw Jaselski (Univ. Warsaw).
~~Recueil chim.~~ 28, 109-24 (1954).—Cathodic processes in
 HNO₃ were investigated at platinized Pt and steel elec-
 trodes, at varying HNO₃ concns. (1-14M) and polarizing
 c.ds. (0.0006-68.6 ma./sq. cm.). The cathode potential
 became more electropos. with the rise in the HNO₃ concn.
 A very sharp rise occurred at about 3.5M HNO₃, when
 nonionized HNO₃ first appeared, and a linear relation was
 observed between the cathode potential and the logarithm
 of nonionized HNO₃ concn. The main electron acceptor at
 the cathode seemed to be NO₂⁺ (formed by the disocn.
 HONO₂ → OH⁻ + NO₂⁺), which was reduced to N oxides.
 H⁺ took part in the depolarizing process only at high c.ds.
 and below 3.5M HNO₃. M. Falk

MINC, STEFAN

POL...

Electromotive force extinction curve in polarization of the $\text{Pb}|\text{PbCl}_2(\text{fused})||(\text{C})\text{Cl}_2$ system. Stefan Minc and Bogumil Boguszewski (Univ. Warsaw). *Russk. Khim.* 28, 617-18 (1954). Fused PbCl_2 was electrolyzed between a molten Pb cathode and a C anode for a time. After the current was shut off, the decreasing e.m.f. resulting from the polarization of the system $\text{Pb}|\text{PbCl}_2(\text{fused})||(\text{C})\text{Cl}_2$ was measured at different times. The decreasing curve followed the equation: $E_{\text{pol}} = A_0 + A_1 10^{-4t} + A_2 10^{-8t}$, where E_{pol} is polarization e.m.f., t is time, and A and k are const. The whole depolarization process seemed to arise from not less than 2 parallel processes, the first according to the equation $E_1 = A_1 + A_2 10^{-4t}$, the 2nd, $E_2 = A_3 + A_4 10^{-8t}$, with the relation $A_1 + A_2 = A_0$ and $E_1 + E_2 = E_{\text{pol}}$ existing. Victor von Jacobi

MINC, S.

POL. 2

✓ Effect of cupric-ion solvation on the standard potentials of a copper electrode in solutions of copper nitrate in water-methanol mixtures. S. Minic and J. Jastrzebska (Univ. of Warsaw). *Roczniki Chem.* 28, 519-20 (1954).—Standard potentials of a Cu/Cu^{++} electrode in a $\text{Cu}(\text{NO}_3)_2$ electrolyte were measured for a series of water-MeOH solus. The potentials varied from 346 mv. in water to 420 mv. in 100% MeOH. The change was gradual, showing a slow replacement of H_2O by MeOH in the solvating layer around the Cu^{++} ion. M. Palk

1-2

MINE, STEFAN

POLON

✓ Effect of anions on electrode passivity. Stefan Mine
(Univ. Warsaw). *Rozprawy Chem.* 28, 523 (1954). Anode
polarization curves of a steel electrode were measured in aq.
sols. of NaCl, Na₂CO₃, NaNO₃, and Na₂SO₄. The dif-
ferences in passivity for these sols. are explained by dif-
ferent anion dehydration energies and O overvoltages.
Sols. in which the O overvoltage is lower have more elec-
trops. electrode potential for the same polarizing current
and become more passive.
Michael Falk

10 22K

3

ming Stefan

Adsorption of carbon monoxide on carbon activated by
platinum, manganese, nickel, and copper. Stefan Mine.
Roznizi Chem. 29, 775-82 (1955) (German summary).
 The adsorption of CO by C activated by Pt, Mn, Ni, and
 Cu in colloidal state was studied at 10, 50, and 100°. At
 dynamic equil. the adsorption ability of the metals was as
 follows: at 10° $Pt > Mn, (Pt + Cu + Mn) > (Ni + Mn) >$
 $Ni > (Pt + Cu) > Cu$; at 50° $Pt > Mn > (Pt + Cu +$
 $Mn) > (Ni + Mn) > (Pt + Cu) > Cu > Ni$; at 100° $(Pt +$
 $Cu + Mn) > (Ni + Mn) > (Pt + Cu) > Pt, Mn, Ni, Cu$.
 At 300 and 400° the CO was oxidized to CO_2 .

P. Dreyfus

MINC, S

* "Relationship Between the Intensity of Cathodic Protective Current and Stray Current in Buried Metal Pipes, S. Ming and Z. Pelsblum (Arch. Elektrotech., 1936, 9, (2), 231-261).--(In Polish).

A laboratory model prepared for the investigations is shown diagrammatically. It was found that the relationship between the protective and stray current can be expressed by the equation: $I_p(0) = \frac{PI_p(x)(x/l + x)^2}{\Sigma \Delta I_p}$ where l = length of the section of the pipe investigated, $I_p(0)$ = intensity of the protective current, $I_p(x)$ = intensity of the stray current at a point (x) , x = distance from the beginning of the pipe. $\Sigma \Delta I_p$ = empirical correction factor

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CIA-RDP86-00513R001134410008-9

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100-100000

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134410008-9"

Minc, S.

B-12

Category: Poland

Abs Jour: R Zh--Kh, No 3, 1957, 7675

Author : Minc, S. and Sobkowski, J.

Inst : Not given

Title : The Effect of Solvation on the Activation Energy of Hydrogen Ion Discharges in Organic Solvents

Orig Pub: Roczn. Chem., 1956, Vol 30, No 1, 351-352 (in Polish with a summary in English)

Abstract: The hydrogen overvoltage at an Hg-electrode has been measured at 19.7-58.6° in 0.1N HCl solutions in ethanol, methanol, and water, using current densities i of 10^{-5} - 2×10^{-3} amp/cm². The activation energy for hydrogen ion discharges in these solutions, calculated by a previously proposed formula (J. O'M. Bockris et al, Trans. Far. Soc., 1951, 47, 766), is 18.8, 19.6, and 21.4 kcal/gm-ion, respectively, at 20°.

Card : 1/1

-7-

MINC, STEFAN

Stefan Minc and Wlodzimierz Libus: "Solvation of Copper and Cobalt Ions in Water-Alcohol Mixtures. II. Absorption Spectra of Copper and Cobalt Nitrates in Water and Absolute Aliphatic Alcohols. Roczniki Chemii, Vol 30, No 2, Warsaw, 1956. Published from the Research Laboratory of Electrochemistry and Corrosion, Warsaw University, 29 Oct 56.

MINC, STEFAN

Stefan Minc and Zbigniew Koczi: "Investigations by Means of the Raman Spectrum of the Influence of Medium on the Structure of Nitric Acid," Roczniki Chemii, Vol 30, No 3, Warsaw, 1956. Published from the Research Laboratory of Electrochemistry and Corrosion, Warsaw University, 3 Jan 56.

PLMO, STEFAN

Stefan Minc and Włodzisław Jabus: "Solvation of Cupric and Cobaltous In Water-Alcohol Mixtures. III. Absorption Spectra of Cupric and Cobaltous Nitrates in Two-Component Systems. "Roczniki Chemii, Vol 30, No 3, Warsaw, 1956. Published from the Research Laboratory of Electrochemistry and Corrosion, Warsaw University, 3 Jan 56.

MINC, S. ; FELDBLUM, Z.,

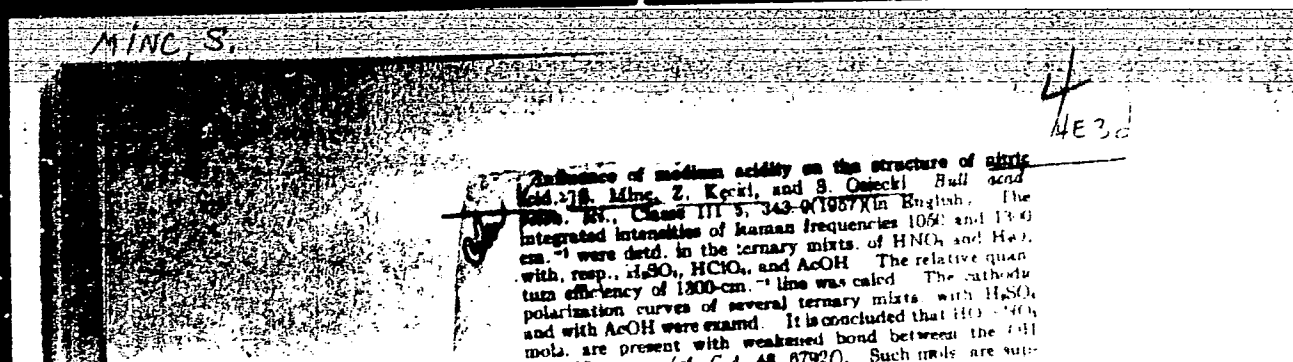
The study on Cathodic Protection Against Corrosion with Stray Currents, Part III
by S. MINC and Z. FELDBLUM, Page 440, Przemysl Chemiczny, No. 8, 1957, p. 440.

MINC, S.

"4th Conference on Electrochemistry in the Soviet Union."

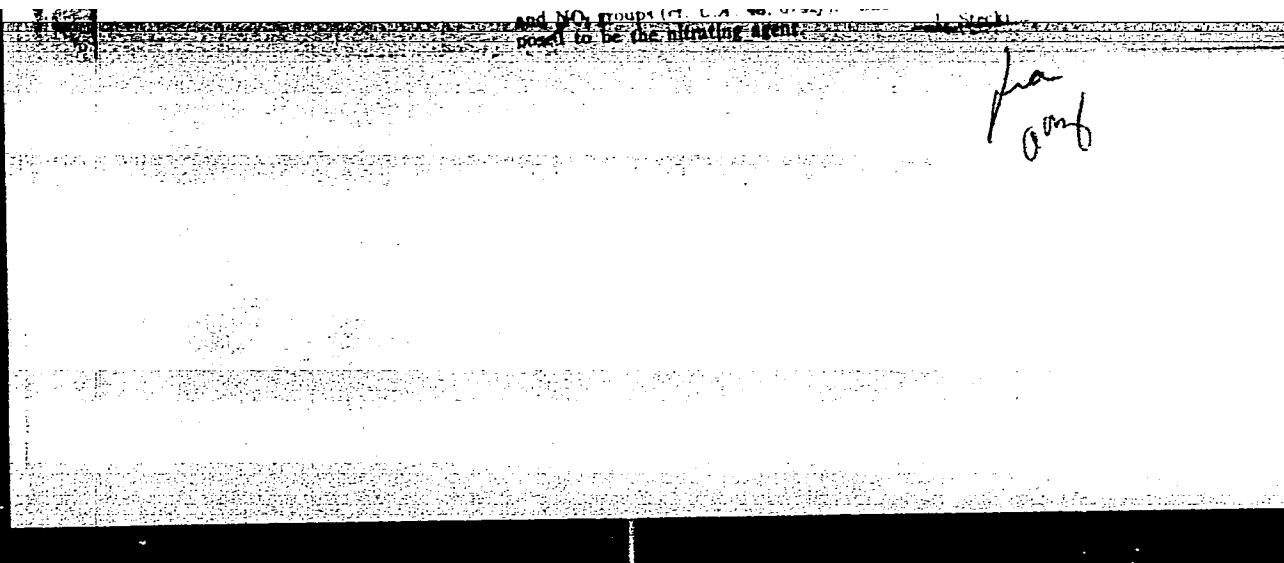
p. 95 (Kosmos. Serbia B: Przyroda Nieożywiona) Vol. 3, no. 1, 1957
Warsaw, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958



"APPROVED FOR RELEASE: 06/14/2000

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APPROVED FOR RELEASE: 06/14/2000

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MINTS, ~~REDACTED~~
5
POLAND / Chemical Technology. Corrosion & Its Prevention.

H

Abs Jour: Ref Zhur-Khimiya, No 12, 1958, 40006.

Author : Mints, Feldblyum.

Inst : Not given.

Title : Investigation of the Cathode Protection from the Action of Wandering Currents. I. The Cathode Protection from Harmful Action of Wandering and Protecting Currents.

Orig Pub: Przem. Chem., 1957, 13, No 6, 330-332.

Abstract: According to the method suggested by the authors, the identity of the interaction between a protecting current of a cathode protection and a wandering current on a pipe system was established (in the case of the same direction of flow, as well as in the case of their reverse direction). An

Card 1/2

8

POLAND / Chemical Technology. Corrosion & Its
Prevention.

H

Abs Jour: Ref Zhur-Khimiya, No 12, 1958, 40006.

Abstract: equation is given which determines the magnitude of the protection current of a cathode protection, depending on the magnitude of a wandering current and the distance from the initial point on the pipe system. The obtained results verify those previously established by the authors, i.e., the common nature of the relation between a minimum current strength of a cathode protection from corrosion caused by wandering currents, and their magnitude. The latter is measured at any point on the pipe system, whenever the source of the wandering current has a final load.

Card 2/2

POLAND / Chemical Technology. Chemical Products and H-4
Their Application. Corrosion. Corrosion
Control.

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 1663.

Author : Minc, S., Feldblum, Z.

Inst : ~~Not given.~~

Title : An Investigation on the Protection of a Cathode
from Wandering Currents. II. The Voltage Drop
in a Wandering Current at a Non-Concentrated Cur-
rent Load.

Orig Pub: Przem. chem., 1957, 13, No 7, 382-383.

Abstract: A method described for laboratory experiments on
investigating the effectiveness of cathode pro-
tection in underground pipe lines. It is pointed
out that the tests were conducted at the current
intensity of 50-100 milliamperes, resistance of

Card 1/3

POLAND / Chemical Technology. Chemical Products and H-4
Their Application. Corrosion. Corrosion Con-
trol.

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 1663.

Abstract: $1/7 \times 10^5$ — 3×10^6 ohm. centimeter and soil
moisture of 3-6%. On the basis of the voltage
decomposition measured on a bar, of wandering
current in a pipe and of the current flowing
through a bar, six diagrams are submitted for
calculating and determining the nature of cath-
ode protection in the case of a non-concentrated
current load.

III. The investigations of a protective current
distribution were conducted on a model represent-
ing an underground pipe line at a current density
of 4-20 milliamperes, specific soil resistance of
 1.2×10^5 ohm. centimeter and 4-6% moisture. The

Card 1/2

Mine, S.

11
/ Cathodic protection against eddy currents. III. Condi-
tions of cathodic protection during different positions of

4

LINE

Influence of medium on the differential capacity on the
mercury dropping electrode in water-methanol solutions of
certain acids. Stefan Munc and Tadeusz Jastrzebski

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"APPROVED FOR RELEASE: 06/14/2000

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RECEIVED: 1986-06-14

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~~SECRET~~

NING, Stefan

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134410008-9"

Distr: 483d

Preparation of metallic ⁷thorium in compact form by
electrolysis of fused salts Stefan Munc Wadit Rafalski

MINC, Stefan

Stefan Minc and Stanislaw Kurowski, 'Einfluss des Mediums auf die Intensität der Raman-Resonanzlinie des p-Nitroanilins,' Zeitschrift fuer Elektrochemie 61/7, 1957, pp. 833-6.

Received on 2 May 1957.

The authors are affiliated with the Laboratory of Electrochemistry,
Institute for Physical Chemistry, Polish Academy of Sciences, Warsaw.

MINC, S.; LIBUS, Z.

Research on the extraction properties of tributyl phosphate esters. p. 81.

NUKLEONIKA. (Polska Akademia Nauk. Komitet to Spraw Pokojowego Wykorzystania
Energii Jadrowej) Warszawa, Vol. 4, no. 1, 1958.

POLAND

Monthly List of European Accession (EEA) LC, Vol. 8, no. 7, July 1959.

Uncl.

MINZ,

Distr: 4E2c

5
1
Polarization on platinum, steel, aluminum, copper and brass electrodes in ethanol. Stefan Minc and Lech Stolarczyk (Univ. Warsaw). *Roczniki Chem.* 32, 897-903 (1958) (German summary).—Studies of anodic polarization of Pt, steel, and Al, and of cathodic polarization of Pt, steel, Cu, and brass electrodes in 96% EtOH, 1% soln. of urea in 96% EtOH, satd. soln. of Na_2SO_4 in 96% EtOH, 100% EtOH, and in 96% EtOH free from dissolved O led to the following results: The cathodic process was due primarily to reduction of dissolved O, whereas the anodic process on Al or steel electrode was an oxidation of the metal. The latter was inhibited by urea. Dissolved O was deactivated by Na_2SO_4 . Removal of O by means of Na_2SO_4 or a N stream facilitated the anodic process on Pt. The rate of oxidation of Al in 100% EtOH was considerably reduced.

A. Kreglewski

Distr: 4E3d

Influence of zinc chloride on parameters of Raman lines
in the system $\text{CH}_3\text{OH}-\text{ZnCl}_2$. Stefan Minc and Stawomir
Osiecki (Univ. Warsaw). *Roczniki Chem.* 32, 1415 (1958)
(English summary).—The changes of the parameters of the
Raman lines of MeOH due to dissolved ZnCl_2 at concns. up
to 5 moles/l. were measured. The results are given in form
of graphs. A. Kreglewski

4
1

96

Distr: 4E2c(j)/4E3d

Influence of some amides on electrical conductivity and absorption spectra of uranyl nitrate solutions in tributylphosphate. Stefan Minc and Lidia Werhlan (Univ. Warsaw). Roczniki Chem. 32, 1419-23 (1958) (German summary). Amides (form-, acct-, N-methylform-, and N-methylacetamide) admixed to 0.02M $UO_2(NO_3)_2$ (I) solns. in tri-
butylphosphate (II) increase the degree of dissociation of I. A strong increase of intensity of absorption bands and a shift toward long waves with a max. at 424 m μ was noted and explained as due to displacement of NO_3^- or II in coordination sphere of I by the amides. A. Kreglewski

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2 May
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MINE, S.

27
Structure of uranyl ion in aqueous solutions of uranyl nitrate. Stefan Mine and Zbigniew Kocul (Univ. Warsaw). Roczniki Chem. 32, 1237-9 (1958) (English summary). The concn. dependence of the molar integral intensity, line width, and the degree of depolarization of the Raman line 830 cm^{-1} , corresponding to the totally symmetric vibration of UO_2^{2+} (I) in aq. solns., was investigated. The results show that I has a linear structure and that the symmetry of vibrating atoms in I does not change; the increase of molar integral intensity of the 830-cm^{-1} line with NO_3^- concn. indicates that the NO_3^- ions coming into the uranyl complex in place of water, cause the valency electron shift in the O-U-O bonds leading to polarity diminution of these bonds. A. Kreglewski

4
4E2C
4E3C

AUTHORS: Mints, Stefan (Minc, Stefan), Yastshembskaya,
Yadviga (Jastrzebska, Jadwiga) SOV/20-120-1-30/63

TITLE: The Measuring of the Differential Capacity of a Double
Electric Layer on a Dropping-Mercury Electrode in Methyl
Alcohol Solutions of KF, LiCl, NaCl and KCl
(Izmereniya differentsial'noy yemkosti dvoynogo elektricheskogo
sloya na kapel'nom rtutnom elektrode v rastvorakh KF, LiCl,
NaCl i KCl v metilovom spirte)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 1, pp.
114 - 115 (USSR)

ABSTRACT: The following problem was regarded to be important in the
investigations carried out by the authors: Does the different
polarization power of the ions exert any influence on the
structure of the double electric layer and on its capacity?
The measurements carried out with aqueous solutions of the
salts of alkali metals showed the following: The differential
capacity of the double electric layer on a dropping-mercury
electrode in solutions containing the ions Li^+ , Na^+ and K^+
differ only little and a potential of about -1,1 V amount to

Card 1/3 from 15,5 to 16,5 $\mu\text{F}/\text{cm}^2$. They increase little with an

The Measuring of the Differential Capacity of a Double Electric Layer on a Dropping-Mercury Electrode in Methyl Alcohol Solutions of KF, LiCl, NaCl and KCl SOV/20-120-1-30/65

increase of the applied potential. The authors assume that the interaction of the ions with the electrode in methyl alcohol is stronger than in water and that therefore the effect of the different polarization power of the ions can be more easily recognized. Based on the measurements carried out by the authors (Ref 4) with 0,1 N-solutions of LiCl, NaCl, and KF as well as with a saturated solution of KCl in methyl alcohol it can be concluded that in the case of sufficiently great negative potentials (more than -1,2) differences in the capacities occur. The capacity is with a given value of the potential the greater the smaller the polarization power of the kations. The kations with the same polarization power must in the case of the same applied potential cause the formation of a double electric layer of the same capacity. Because of the difference of the concentrations of the used solutions the negative part of the curve of KCl is lower than the negative part of KF. There is 1 figure and 4 references, 1 of which is Soviet.

Card 2/3

The Measuring of the Differential Capacity of a Double Electric Layer on a Dropping-Mercury Electrode in Methyl Alcohol Solutions of KF, LiCl, NaCl and KCl 307/20-120-1-50/63

ASSOCIATION: Laboratoriya elektrokhimii Varshavskogo universiteta (Laboratory of electrochemistry of Warsaw University)
Laboratoriya elektrokhimii Instituta fizicheskoy khimii Pol'skoy Akademii nauk (Laboratory of Electrochemistry of the Institute of Physical Chemistry of the Polish AS)

SUBMITTED: January 2, 1958, by A. N. Frankin, Member, Academy of Sciences, USSR

PRESENTED: December 15, 1957

1. Electrical double layer--Properties 2. Mercury electrodes--Applications
3. Methyl alcohols--Applications

Card 3/3

M I N C , S T E F A N

24(8)	PHASE 7 BOOK 2: PLANTATION	SOV/1809
	Akademika nauk SSSR. Otdeleniye khimicheskikh nauk	
	Ternodinamika i stroyeniye rastvorov; trudy soveshchaniya... (Thermodynamics and Structure of Solutions; Transactions of the Conference, 1-4 January 27-30, 1958) Moscow, Izd-vo AN SSSR, 1959. 295 p. 3,000 copies printed.	
	Ed.: M. I. Shkargarov, Doctor of Chemical Sciences; Ed. of Publishing House: M. G. Vagrov; Tech. Ed.: T. V. Polyakova.	
	PURPOSE: This book is intended for physicists, chemists, and chemical engineers.	
	CONTENTS: This collection of papers was originally presented at the Conference on Thermodynamics and Structure of Solutions sponsored by the Section of Chemical Sciences of the Academy of Sciences, USSR, and the Department of Chemistry of Moscow State University, and held in Moscow on January 27-30, 1958. Officers of the conference are listed in the Foreword. A list of other reports also read at the conference, but not included in this book, are given. Among the problems treated in this work are: electrolytic solutions, ultrasonic measurement, dielectric and thermodynamic properties of various mixtures, spectroscopic analysis, etc. References accompany individual articles.	
	Shkargarov, M. I. Present Problems of the Thermodynamic Theory of Solutions of Nonelectrolytes	36
	Shkargarov, M. I. Fluctuation of Energy in Solutions and Their Relation to Heat Capacity	43
	Plumer, L. S., and V. I. Rus'lich. Molecular Theory of Solubility	48
	Prigogine, I. L., and M. Ye. Rabinova. Critical Phenomena in Binary Liquid Systems	49
	Rabinov, O. M., and A. A. Rabinova. Phase Transitions in Simple Systems and Their Classification	67
	Rabinov, O. M., and A. A. Rabinova. Use of Microscopic Measurements in the Study of Solutions	72
	Rabinov, O. M., and K. I. Zamborsk. Transformation of Binary Nonelectrolyte into Nonelectrolyte and Nonelectrolyte	79
	Rabinov, A. V., and A. G. Morchevskiy. Applicability of Konvalov's and Vrevalov's Laws to Ternary Solutions	87
	Rabinov, A. V., and M. M. Smilka. Relation of Thermodynamic Properties of Saturated and Nearly Saturated Ternary Solutions to Their Composition	93
	Rabinov, A. V., and M. M. Smilka. Thermodynamic Properties of Water in Solutions of Electrolytes	97
	Rabinov, A. V., and M. M. Smilka. Thermodynamic Properties of Nonelectrolytes	105
	Aleksandrov, V. I., and Ye. P. Ivanova. Thermodynamic Properties of Nonelectrolyte Solutions of Electrolytes	118
	Imayev, M. A., V. A. Krasov, L. M. Kutayeva, and Ye. V. Vityov. Study of the Effect of Solvents on the Strength of Acids by Means of Optical Methods	122
	Imayev, M. A., and Ye. P. Ivanova. Thermodynamic Properties of Acids and Complex Compounds and Methods of Studying It	126
	Yatsinskii, L. B. Change in Thermodynamic Functions in Reactions of Association of Ions in Solutions	133
	Vasil'ev, V. P. Thermodynamics of "Aqueous Complexes"	140
	Imayev, M. A., and M. M. Smilka. Study of Partial Pressure of Solvent in Aqueous Solutions of Electrolytes	144
	Imayev, M. A., and M. M. Smilka. Interactions of Proton With Molecules (Water, Methanol, Ethanol, and Propyl Alcohol)	152

MINC STEFAN
BODUKAZKEV

PHASE I BOOK EXPLOITATION SOV/2216

Trudy... (abornik) (Transactions of the Fourth Conference on Electrochemistry: Collection of Articles) Moscow, izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye Khimicheskikh nauk.

Editorial Board: A.M. Prumkin (Resp. Ed.) Academician, O.A. Yustin, Professor, S.I. Zhdanov (Resp. Secretary), B.M. Kabanov, Professor, S.I. Zhdanov (Resp. Secretary), B.M. Kabanov, Professor, Ya. M. Kolotyrskiy, Doctor of Chemical Sciences, V.V. Losev, P.D. Lukovtsev, Professor, Z.A. Solov'yeva, V.V. Stender, Professor, and G.M. Florianovich, Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences, USSR, and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodes, position and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included herein have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Koutetskiy, Ya. Institute of Physical Chemistry, Czechoslovak Academy of Sciences). Survey of the Latest Theoretical Work at the Prague Polarographic School 113

Mikolayeva-Pedgovich, M.V. and B.B. Damaskin (Moscow State University). Influence of the Radius of "Background" Cathions on the Reduction of Persulfate Anions at a Mercury Electrode 150

Zhdanov, S.I., V.I. Zykov, and T.V. Kalish (Institute of Science). The Influence of Structural Changes in HNO₃ Molecules on the Course of Cathodic Polarization of a Platinum Electrode in Nitric Acid Solutions 159

Card 7/34

Electrochemistry and Physics. Dresden School for Advanced Technology). The Influence of Organic Solvents on Wave Height and Semiwave Potential of Organic Depolarizers 170

Zabotin, P.I., S.P. Buchman, and G.Z. Kir'yakov (Institut Khimii Akademii nauk KazSSR-Institute of Chemistry, Academy of Sciences, Karakum SSR). Influence of the Position of Zero-Charge Points on the Reduction of Indium at a Mercury-Drop Electrode 179

Koryta, I. Polarographic Institute, Czechoslovakian Academy of Sciences). Kinetics of the Separation of Cadmium from Cyanide Complexes by Dropping Mercury Electrodes and Streaming Mercury Electrodes 186

Suchegol', Sh. S. (Tsentrallyaya laboratoriya "Zavodstroya" Dzerzhinsk-Central Laboratory "Zavodstroya" Dzerzhinsk). Reduction of a Chlorite Ion at a Dropping Mercury Cathode 193

Card 8/34

MINC, S.

Distr: 4E2c(j)/4E3d

The extraction properties of tributyl phosphate. S. Minc and Z. Libus (Polska Akad. Nauk, Warsaw). *Nucl. Sci. Ser. A*, 81-8(1969)(English and Russian summaries).
 —Absorption spectrum measurements showed that the stability of uranyl- Bu_3PO_4 complexes in EtOH is not high. The partition of $\text{UO}_2(\text{NO}_3)_2$ between NH_4NO_3 aq. solns. and Et_3PO_4 , trihexyl phosphate, and tris(2-chloroethyl) phosphate was examd. The CoCl_2 - Bu_3PO_4 system was investigated. K. Rojanowski

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 1-3 (BW)
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MINC, S.

[Handwritten initials]

[Handwritten: 12m]
 The possibility of radiation nitration of aromatic hydrocarbons. R. Broszkiewicz, S. Minc, and Z. Zaslowski (Inst. Badań Jądrowych, Warszawa). Polish Acad. Sci. Inst. Nuclear Research, Rept. No. 123/ChR, 1 p. (1959) (in English).—A soln. prepd. from C_6H_6 0.170, $Ca(NO_3)_2 \cdot 4H_2O$ 11.8, and H_2O 80 g., was exposed to γ -radiation (6000 c. from Co) for 16 hrs. at atm. pressure. Polarographic examn. of the irradiated soln. revealed $PhNO_2$, picric acid, and some unidentified compds. Mononitrophenols were not detected. The reaction mechanisms proposed involve 2 steps: $NO_3^- + H = NO_3^- + OH$, and $NO_3^- + OH = NO_2 + OH^-$, followed by: $C_6H_6 + NO_2 = C_6H_5NO_2$ or $NO_2 + OH^- = NO_2^- + OH^-$ and $C_6H_6 + NO_2^- = C_6H_5NO_2 + H^+$.
[Handwritten: 46/11]

A. Szafranski

[Handwritten: 5 2-709(NB)(May)]

POL/46-4-1-7/15

5(4)

AUTHOR:

Minc, Stefan and Libus, Zofia

TITLE:

The Extraction Properties of Tributylphosphate (Badanie ekstrakcyjnych wlasciwosci estu trojbutyloforowego)

PERIODICAL:

Nukleonika, 1959, Vol 4, Nr 1, pp 81-86 (Poland)

ABSTRACT:

The article reports on thorough investigations about the exchange reaction of extractions and stability of $UO_2(TBP)_2(NO_3)_2$. Due to the limited solubility of the complex in water, the spectroscopic determination of the exchange constant is made by dissolving dehydrated $UO_2(NO_3)_2$ in a different molar ratio of alcohol and TBP by absorption-spectroscopy. Fig. 1 shows the spectroscopic change at 3 different wave lengths (between 320-500 m μ) depending on the solvent concentration. It became evident that the complex compound of alcohol with $UO_2(NO_3)_2$ is also limited, so that it is sufficient for the calculation of the stability constant. Further, it can be taken from the diagram (1), that the constant of the exchange reac-

Card 1/3

POL/46-4-1-7/15

The Extraction Properties of Tributylphosphate

tion for TBP is not very significant. The constant can be determined after measuring of the equilibrium. The partition of $\text{UO}_2(\text{NO}_3)_2$ between NH_4NO_3 water solutions and triethylphosphate, trihexylphosphate, and tri-(β -chloroethyl)-phosphate shows that TBP has no extreme characteristics. Fig. 2 shows graphically the relation between the distribution coefficient and the number of moles of phosphate-ester in 1000 g. benzene. It is assumed that the stability of the complex compound is achieved by formation of 4-link chelatrings. The complex has a tetrahedral form. In order to obtain a more thorough knowledge of the sterical factors of this complex, investigations (spectroscopic absorption-measurements) (Fig. 3) with CoCl_2 and TBP with different concentration of LiCl are made and compared with each other. It is assumed that if LiCl is missing, the complex is the $\text{Co}(\text{TBP}) (\text{H}_2\text{O}) \text{Cl}_2$ one, in case of surplus of LiCl , $(\text{CoCl}_4)^{--}$ is obtained, in case of concentration $\text{Co}(\text{TBP})\text{Cl}_3^-$ is obtained. Further investigations are under preparation. There are

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Card 2/3

POL/46-4-1-7/15

The Extraction Properties of Tributylphosphate

3 graphs and 2 references, 1 of which is English and 1 French.

ASSOCIATION: Instytut chemii fizycznej PAN, Warszawa, zaklad elektrochemii (Physical-Chemical Institute, PAN, Warszawa, Department of Electro-Chemistry)

SUBMITTED: August, 1958

Card 3/3

MINC, S.; SOBKOWSKI, J.

Activation heat of the hydrogen-ion discharge on the mercury electrode in aqueous and alcoholic HCl-solutions. *Bul Ac Pol chim* 7 no.1:29-36 '59. (EEAI 9:7)

1. Zaklad Elektrochemii Uniwersytetu Warszawskiego. Vorgelegt von M. Smialowski.

(Ions) (Hydrogen) (Ethyl alcohol)
(Electrodes, Mercury) (Water) (Alcohols)
(Methanol) (Hydrochloric acid) (Propyl alcohol)

24(7),5(4)

AUTHORS:

Minc, S., Keçki, Z. . .

SOV/48-23-10-4/39

TITLE:

Investigation of Aqueous Solutions of Uranyl Nitrate by the Method of the Raman Spectrum of Light

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1182-1183 (USSR)

ABSTRACT:

One of the main tasks to be performed by the laboratory in which the authors work, is the investigation of the structure of electrolyte solutions and of the interaction between the ions and the molecules of the solvents, for which purpose, among others, also the method of the Raman spectroscopic investigation is used. Recently, the authors have investigated the interrelations between the Raman line parameters and the concentration of electrolyte solutions. One of the systems investigated was the aqueous solution of uranyl nitrate. The uranyl ion enters into strong interaction with the water molecules (complex formation).

The characteristic UO_2^{2+} -lines are: 860 cm^{-1} (strong symmetric oscillations), 210 cm^{-1} (weak, deformed oscillation), and 930 cm^{-1} (asymmetric oscillation); their interrelations with

Card 1/3

Investigation of Aqueous Solutions of Uranyl Nitrate
by the Method of the Raman Spectrum of Light

SOV/48-23-10-4/39

concentration were investigated. For this purpose, the spectrograph of the type ISP-51 and Agfa-Raman-ortho-plates were used, and the spectrum was excited by means of the PRK-2 lamp. Photometrization was carried out on the MF-2-microscope. The degree of depolarization was determined by means of two crossed polaroid films, which were arranged in front of the slit of the spectrograph. Dispersion in the spectral range investigated amounted to $234 \text{ cm}^{-1} \text{ mm}^{-1}$, the apparatus function to 4.7 cm^{-1} , and the spectral width of the slit to 6.5 cm^{-1} . The results obtained by determining the parameters of the line 860 cm^{-1} are shown by a table. The molar integral intensity was calculated

according to the formula
$$I_{\infty} = \frac{S_s}{S_{st}} \cdot \frac{n_{st}^2}{m_{st}^2} \cdot \frac{C_{st}}{C_s} \cdot 100 .$$

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S denotes the area bounded by the line contours, n - the refraction index, and C - the uranyl ion concentration in

Investigation of Aqueous Solutions of Uranyl Nitrate
by the Method of the Raman Spectrum of Light

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Mol/liter; the index s holds for the standard solution and the index s for the remaining solution. In the case under investigation the intensities were determined on the assumption that the line 860 cm^{-1} in the spectrum of a 0.93 M uranyl nitrate solution (standard) has the intensity 100. The results were averaged from 5 - 8 measurements. The root mean square error amounted to 10%. In a diagram I_{∞} is plotted versus $C_{\text{H}_2\text{O}}/C_{\text{NO}_3^-}$

I_{∞} decreases exponentially with increasing concentration ratio.

The line width was found to be practically unchanged. The degree of depolarization, which was found to be low, indicated a linear configuration of the uranyl ion in the investigated solutions. There are 1 figure, 1 table, and 8 references, 4 of which are Soviet.

ASSOCIATION: Laboratoriya elektrokhemii Instituta fizicheskoy khimii Pol'skoj Akademii nauk (Laboratory of Electro-chemistry of the Physico-chemical Institute of the Academy of Sciences of Poland)

Card 3/3

24(7),5(4)
AUTHORS:

Minc, S., Osiecki, S.

SOV/48-23-10-5/39

TITLE:

The Investigation of Solutions of Zinc Chloride in Methanol
by the Method of the Raman Spectrum of Light

PERIODICAL:

Izvestiya Akademii nauk SSSR: Seriya fizicheskaya, 1959, Vol 23,
Nr 10, pp 1184-1185 (USSR)

ABSTRACT:

Because of the interaction between the components electrolyte -
solvent the Raman spectra of the solvent and of the dissolved
salt show considerable variations. In references 1 - 4 frequenc;
variations were above all investigated. Kuchkarev et al. (Ref 4
already pointed out the strong interaction of molecules in the
zinc chloride solution in methanol. This solution has already b
investigated by means of the Raman spectra method by Hibben, wh
found a frequency decrease in the 1033 cm^{-1} -methanol line. The
present paper focuses its main attention on the concentration
dependence of integral intensity, the degree of depolarization,
and the width of the line $e-1033\text{ cm}^{-1}$ (symmetric valence
oscillation of C-O in methanol). The method of investigation is
the same as in reference 5. The spectrum was excited by the bl

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The Investigation of Solutions of Zinc Chloride in
Methanol by the Method of the Raman Spectrum of Light

SOV/48-23-10-5/39

Hg-line of a PRK-2 lamp. Measuring results are shown by figures 1 and 2. In the case of zinc chloride concentrations of from 0 to 0.9 Mol/liter the integral intensity of the investigated lines increases considerably and the degree of depolarization decreases, which indicates a decrease of the polarity of the C-O bond of methanol as well as a symmetry increase of the methanol molecule. At concentrations > 0.9 Mol/liter intensity decreases and the degree of depolarization of the C-O line increases, which indicate a decrease of the symmetry of the methanol molecule and an increase of C-O bond polarity. In all cases the molar integral intensity of the 1033 cm^{-1} line in dissolved state compared to pure methanol was greater and the degree of depolarization was lower. Figure 2 shows the dependence of the width and the frequency of this line on ZnCl_2 -concentration. The line width shows an increasing and the frequency a decreasing tendency with increasing ZnCl_2 -concentration. The parameters of other lines were not determined because of the lower intensity of these lines and the intensive background. There are 2 figures and 7 references, 5 of which are Soviet.

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The Investigation of Solutions of Zinc Chloride in
Methanol by the Method of the Raman Spectrum of Light

SOV/48-23-10-5/39

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Sciences)

Card 3/3

MINC, S.; SZYMANSKI, A.

Preparation of $UO_2 \cdot 2H_2O$ during glow discharges in aqueous uranyl salt solutions.
p. 551

ROCZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, no. 2, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 9, September 1959.
Uncl.

82708

P/046/60/005/001-2/002/008
A222/A026

21.3100
5.2200
AUTHOR:

Minc, Stefan; Rafalski, Wadim

TITLE:

Production of Compact Metallic Thorium by Means of Fuse Salt
Electrolysis ^

PERIODICAL: Nukleonika, 1960, No. 1-2, pp. 47-54.

TEXT: The authors describe an experiment in which they produced solid metallic thorium by means of electrolysis of molten salts in a bath containing 0.4n ThF₄, 0.5n CaF₂ at a temperature of about 1100°C and a current density of about 650 a per square decimeter. As indicated in the introduction, electrolysis of salts according to Driggs and Liliendahl (Ref. 5, 6) yields powderized metal. Latest research has shown the practicability of thorium reduction from halogen compounds dissolved in a mixture of alkali metal halogens. In order to examine the ways of solid thorium production, the authors electrolyzed a molten mixture of thorium, calcium and zinc salts. Calcium salt was used for the considerable heat of reduction of calcium. The test equipment consisted of an airtight steel tank with a graphite crucible placed on the bottom and serving as the

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Production of Compact Metallic Thorium by Means of Fuse Salt Electrolysis

anode. A concentric molybdenum rod, 6 mm in diameter, constituted the cathode. The tank was placed in a vertical silit (silicon carbide) furnace heated by a temperature-controlled ($\pm 20^{\circ}\text{C}$) transformer. Argon, purified from oxygen, nitrogen, and humidity, was forced through the tank during electrolysis. Fig. 1 shows a cross section of the steel tank; the electrical wiring system is shown in Fig. 2. Electrolysis was performed by means of direct current from a selenium rectifier. The use of electrolyte I (0.4n ThF_4 , 0.5n CaCl_2 and 0.1n ZnCl_2) at a temperature lower than the boiling point of ZnCl_2 resulted in a powder deposit. The first nugget of solid metal along with metallic powder was obtained at a temperature of 900°C , or higher than the boiling point of ZnCl_2 , at a current density of about 600 a/10 cm^2 . Electrolyte II consisted of 0.4n ThF_4 , 0.5n CaF_2 and 0.1n ZnF_2 . The optimum temperature and current density, required to produce solid metal on the cathode as established in a sequence of tests, was about 1100°C and about 650 a/10 cm^2 respectively. Solid thorium obtained under these conditions from electrolyte II had a specific density of 11.1 gr/cm^3 and the chemical composition 94.4% Th, 2.7% Fe and Al and a number of other elements, with traces only of Zn.

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Production of Compact Metallic Thorium by Means of Fuse Salt Electrolysis

Impurities originated from the crucible, tank and salts. There are 6 figures and 9 references: 3 Soviet, 3 English, 2 German and 1 Polish.

ASSOCIATION: Zakład Elektrochemii i Korozji Uniwersytetu Warszawskiego
(Department of Electrochemistry and Corrosion, Warsaw University)

Zakład Elektrochemii Instytutu Chemii Fizycznej PAN
(Department of Electrochemistry, Institute of Physical Chemistry, Polish Academy of Sciences)

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SUBMITTED: November 1959

Card 3/3

1 4
 /Influence of surface-active substances on the contact potentials of electrolytic deposits of cadmium. S. Minc and Z. Feldblum (Univ. Warsaw). *Electrochim. Acta* 2, 121-9 (1960) (in German).—The contact potentials of electrolytic deposits of Cd were studied by the dynamic condenser method against a Au plate in air. The deposits were obtained from buffered sulfate soln. in the presence of gelatin, thiourea, tetramethylammonium iodide, Na α -naphthalenesulfonate, and some mixed addns. An explicit influence of c.d., of type of substance added, and of concn. on the contact potentials was observed. A better quality of Cd deposits (better compactness and fine-grain structure as detd. microscopically) was assoc. with a decrease of the electron work function. Application of the method to the study of electrolytic redn. processes and to problems of catalysis is suggested. Exact interpretation requires the knowledge of the electron work functions of the different crystallographic faces. P. Van Rysselberghe.

JK

MINC, STEFAN

Distr: 4E2c(m)/4E3c 2 cys

Preparation of solid metallic thorium by electrolysis of fused salts. Stefan Minic and Vladimir Rafalski (Univ. War-
saw). *Nukleonika* 5, 47-53 (1960). Electrolysis of a fused
mixture of ThF_4 , CaF_2 , and ZnF_2 , 0.4, 0.5, and 0.1N, resp.,
with a graphite anode and a Mo-rod cathode, at $\sim 1100^\circ$
and 650 amp./sq. dm., gave after 15 min. a solid coat of
metallic Th of 94.4% purity, contg. 2.7% Fe. Probably
Th was reduced by deposited Ca and a Th-Zn alloy was de-
posited and subsequently decompd., the amt. of heat gen-
erated at the cathode being adequate to fuse the alloy and
cause sublimation of Zn. Electrolysis with CaCl_2 and
Mik. ZnCl_2 gave powd. Th. J. Stoeckl

5
nsc (50)(6)
3

MINC, Stefan; SIEKIERSKA, Maria

Formation of chlorouranyl complexes in isopropyl alcohol.
Nukleonika 5 no.3:109-114 '60.

1. Katedra Elektrochemii, Uniwersytet Warszawski i Zaklad
Elektrochemii Instytutu Chemii Fizycznej, Polska Akademia
Nauk, Warszawa.

BROSZKIEWICZ, B.; MINC, S.; ZAGORSKI, Z.

The possibility of radiation nitration of aromatic hydrocarbons.
Bul chim PAN 8 no.3:103-104 '60. (KEAI 10:9/10)

1. Laboratory of Radiation Chemistry, Institute of Nuclear Research,
Polish Academy of Sciences. Presented by T. Urbanski.

(Radiation) (Nitration) (Hydrocarbon)
(Aromatic compounds)

7
5
1-22 (1/2)
No. 1.

The formation of tetrahedral cobalt(II) complexes in solutions. III. Halogeno complexes in organic solvents. Włodzimierz Lihus, Anna Ugniewska, and Stefan Minc (Univ. Warsaw). *Roczniki Chem.* 34, (29-39) (1960) (in English); cf. *CA* 54, 4234c. The ranges of existence of individual CoX_2L_2 , CoX_2L , and CoX_2 complexes ($\text{X} = \text{Cl}^-$ or Br^- , $\text{L} =$ solvent mol.) in the systems $\text{CoCl}_2 + \text{NH}_4\text{BuCl}$ in iso- PrOH , and $\text{CoBr}_2 + \text{LiBr}$ or $\text{Co}(\text{ClO}_4)_2 + \text{LiI}$ in EtOH have been detd. spectrophotometrically. The calens. were based on detn. of isosbestic points, on the dependence of extinction coeffs. on concn. of isooctane added to EtOH , and on the identity of limiting absorption curves of alc. and aq. solns. A. Kreglewski.